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THE FOLIO

University of Alberta, Edmonton

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"Honour for a Prophet in his own Country"

By L.E. Tyner

Editor's Note: The author, Dr. Tyner, has been a member of the Dominion Laboratory of Plant Pathology and has contributed substantially to research done here over many years. Dr. Henry and Dr. Sanford still live in Edmonton. Dr. Broadfoot lives in Lethbridge where he has been attached for many years with the Dominion Experimental Farm.

Research has been defined as, "laborious, careful investigation." This definition is perhaps overly brief and it does not connote the most important factor of productive research - thought. The worker must first apprehend his problem and then think out how he will attack it experimentally. However, the serious, feet-on-the-desk thinking is needed in the interpretation of the results. Many important leads have been missed at this stage and some future researcher whose imagination is keener, or whose perception is sharper, repeats the work and fits together the pieces of the puzzle.

The University of Alberta has been favoured by the presence of many excellent researchers. There is interest in speculating as to the number of important original contributions that have been published by staff and students throughout the life of this institution but it would be a most difficult task to discover all of the reports in the hundreds of journals that have served as media of publication. Fortunately, perhaps, every so often someone, somewhere undertakes to trace right back to the pioneers in a particular field of knowledge. Usually such a review leads to certain surprises. The work of researchers who were active thirty or forty years ago is brought to light and its relative value is assessed. Thus we often find that our own folk have attained eminence in the eyes of the outside world. It is the purpose of this article to tell what one such outside observer has written of certain of our old guard in the field of plant pathology.

Dr. S. D. Garrett, Chief of Mycology, University of Cambridge, presented an invitational paper, "Toward Biological Control of Soil-Borne Plant Pathogens," at a symposium in Berkeley, California in 1965. He quoted dozens of different research workers who have contributed to this field of knowledge but he rightly paid particular honor to three workers, now retired, who pioneered in original thinking on this concept at the University of Alberta. I refer to DR. A.W. HENRY, Plant Science Dept., and DRS. G.B. SANFORD and W.C. BROADFOOT, Canada Dept. of Agriculture,

Laboratory of Plant Pathology on the campus. I cannot do better than quote Garrett's own words as he develops the groundwork for his paper. -- "Sanford (1926) had, in fact, proposed not one, but two, concepts, the second of which was original in this particular context, and had integrated them into a concise hypothesis of biological control, as follows: (1) saprophytic microorganisms can control the activity of plant pathogens: (2) the microbiological balance of the soil can be changed by altering soil conditions; in particular the addition of fresh organic material will promote the activity and multiplication of saprophytes, which both by their competition for nutrients and for oxygen, and by their excretion, will depress the activity and multiplication of the pathogens. Sanford's hypothesis and the three merits of being easy to understand, of explaining and collating earlier observations, and of being open to experimental test." Again to quote Garrett further. -- "Sanford and Broadfoot (1931) then provided experimental proof for Sanford's original hypothesis, by showing that infection of wheat seedlings by Ophiobolus graminis in sterilized soil could be completely suppressed by the antagonistic action of various coinoculated species of fungi and bacteria. The impact of Sanford and Broadfoot's paper was soon reinforced by an extremely original and elegant demonstration from another Canadian worker, Henry (1932), that the influence of soil temperature upon the development of the take-all disease in glasshouse trials could be strongly affected by the interactions between the pathogen and other soil microorganisms. I still think, as I thought then, that this work of Henry's has been one of the greatest single feats of intellectual and experimental analysis yet to have been performed in the field of root-disease investigations.'

These three workers are known to many of our readers, but it is improbable that anyone outside the discipline knows much about their work. Our crops are subject to damage from many plant diseases, and as cropping becomes more intensive it is ever more difficult for man to salvage his share. The research discussed here is but one incident in the busy lives of these men. Other problems have been attacked by them. Some were solved, some were not, but they tried. Each has added substantially to the permanent, printed record of knowledge of the pathogens that threaten us. Their first steps have sought and found the solid ground that is needed before a foundation can be built.



W. C. BROADFOOT



A. W. HENRY



G. B. SANFORD

THE COMPUTING CENTRE

PART 2

By D.B. Scott

No one really supposes that a computer can be equated to a number of desk calculators. That would be to downgrade the computer shamefully and to misrepresent it totally; especially for as large a number of desk calculators as 600,000, each with five human operators, with each operator working at the rate of 35 hours per week, so that the enterprise need not shut down. Associated with the 3,000,000 operators would be problems in logistics, sanitation and recreation which no university is equipped to solve. And the operators would be almost completely uncoordinated; the propagation of information from one operator to another would be at a speed approaching zero when the speed of light would be better; and they can only do arithmetic anyway. The comparison is preposterous.

A computer is a high-speed information processor. It has a memory with instant, infallible, and total recall. Into the memory may be put any information whatever: quantum numbers; musical notes, rules of syntax of Erse, Chaucer's Pardoner's Tale, the complete simulation of a university. In the memory may be stored a program which gives the operating unit instructions about what to do with the information. One may require manipulation of the musical notes thus composing a string quartet; one may ask for a complete print-out, probably on microfilm, of the Pardoner's Tale; or one may wish to make a 20-year forecast of the operation of the university.

In the early days of computers - five years ago - people thought of computers as high-speed calculators. They were, and still are, and they get faster all the time. But that is only the beginning. They are really information processors. The information, and the process, may be very variable.

A small calculation was recently made.* Each year the Physical Review publishes more pages of scientific publication than in the previous year and the rate of growth is exponential. If one takes this rate of growth and extrapolates, it is found that the total mass of the Physical Review will exceed that of the earth in about the year 2040. What is true of the Physical Review is equally true of all other science journals and there are well over 100,000 of them. Consider the problem of a literature search in the year 2000! While this obviously cannot happen it cannot be prevented by restricting the publication rate of creative scientists. That would be fatal, we will be rescued by the new technologies, information storage and information retrieval developed under the guidance of the new science, information theory.

Our university libraries are facing the information deluge now. The Library Committee has recommended that the library holdings beincreased, by a factor of six, to the equivalent of 3,000,000 volumes as soon as possible - say ten years. This would mean an increase of 2,500,000 volumes in ten years, or 250,000 per year. There are 250 working days per year so 1,000 books would have to enter the library per day. An average book weighs about two pounds and that means that gear of some sort would have to be found to shelve one ton of books per day. No wonder the Library Committee used the qualifying phrase "the equivalent of." Books are on the way out. They are too bulky. But that is not all. Each new book requires, with present methods, eight pieces of paper to be typed up for ordering, payment, duplicate catalogue cards, and so on. That is 8,000 per day or 2,000,000 per year. This is ridiculous. Surely better methods can be found. If not, we'll never make it.

Ever since computing centres have existed it has been fashionable, until quite recently, to establish centres for research and teaching separate from those for administration. This has been desirable because the two modes of use tend to interfere with each other. Research problems require a lot of computation time for a small amount of data. For the business functions of the university the

reverse is true. With a single computing centre there would be the problem, as seen by the scientific users, of the business types cluttering up the input hopper with their large amounts of data and their relatively trivial problems. As seen by the business users, the problem would be always having to wait until some long scientific calculation is completed before getting the answer to some simple question. For the business offices this would not do. When they want an answer, they want it right now. This claim might be disputed in some cases but it is certain that no one would wish to see payroll held up for more than one microsecond at most. There is an even more serious problem. If there were to be one computing centre the question of its location would arise. Clearly the large accumulation of records generated by the business offices, and on which they exist, would demand that the computing centre be in the administration building. There would then be no question about which conflicting interest would dominate.

Within the past year new equipment has been announced which completely removes this conflict. A substantial increase in speed is now available with a completely new mode of operation known as time-sharing with remote consoles. This means that a number of communication lines can be connected to a large central facility with high-speed input and output devices at the remote end of each line and operated by someone, at that end, who is just as well off as if he had the computer in his own office. The computer then scans the various inputs, allotting a quantum of time of perhaps 50 milliseconds to anyone that needs it, and passing onto the next. By the time the scanning cycle is completed the first user is not really aware that he has shared the past second with 20 other users.

Naturally we are making plans for this kind of equipment here so that we may put "on line" all the enterprises in the university that process information. In particular we are concerned about the library. For what teaching and research of significance can be done without a library? And of what use is a library full of irretrievable information?

*J. Robert Oppenheimer



Time-sharing involves a number of display terminals such as the one pictured here. Figuratively speaking, it is a window into the computer which can be placed next to the computer or even miles away.

Professors Emeritus Honoured

At a small ceremony January 8th, the Friends of the University presented \$1,000 worth of books to the University in honour of eight professors emeritus of outstanding merit from the Faculty of Arts. The books purchased all related to the particular field of interest of those being honoured. In presenting the gift of books, the Friends

of the University paid tribute to R.K. GORDON, (Economics); W.G. HARDY, (Classics); J.T. JONES, (English) M.H. LONG, (History now deceased but represented by Mrs. Long at the ceremony); JOHN MACDONALD, (Philosophy); J. M. McEACHRAN, (Philosophy); FRANCIS OWEN, (German); and EDOUARD SONET, Romance Languages.



Pictured from left to right are Professors John Macdonald and J.M. McEachran, Mrs. M.H. Long, and Professors Francis Owen, J.T. Jones, and W.G. Hardy.

10,223 full-time students

Final enrolment figures for the 1965-66 winter term have now been released by the Registrar's Office. Full-time, day-time students total 10,223, an increase of almost 1,000 over last year's figures. When part-time and extramural students, and students at affiliated institutions are included, the figure reaches 12,754.

By faculty and school, the full-time, day-time registration is as follows:

me registration is as follows:	:
Education	2,724
Arts	1,601
Science .	1, 357
Graduate Studies	1, 125
Engineering	850
Bus. Admin. & Commerce	608
Medicine	315
Physical Education	284
Agriculture	281
Pharmacy	212
Dentistry	192
Nursing	172
Law	170
Household Economics	152
Rehabilitation Medicine	91
Medical Laboratory Science	62
Dental Hygiene	37

two bargains at extension

Two classes being offered by the Department of Extension, beginning after January 15th, will be available at half-fees to University staff. They are:

(1) WHY ASIA? - sixlectures presenting the viewpoint of Canadians who have been part of the Asian scene, with a realistic appraisal of the Oriental East and an insight into the Asian's mage of the West. Speakers in clude DR. LESLIE GREEN, DR. CHESTER RONNING, PROF. IVAN HEAD & DR. BRIAN EVANS.

DATE: six Tuesday evenings beginning January 25 from 8 - 9:30 p.m. FEE: \$10.00 (\$5.00 for University staff.)

(2) INTRODUCTION TO PLATO'S WRITING AND THOUGHT - eight lectures to acquaint the student with Plato's techniques as a writer and with his main themes as a philosopher. The instructor is DR. MAURICE COHEN, DATE: eight Tuesday evenings beginning

DATE: eight Tuesday evenings beginning January 18, from 8 - 10 p.m. FEE: \$18.00 (\$9.00 for University staff.)

Registration takes place at the Department of Extension, Corbett Hall, 112 Street and 82 Avenue.

three new graduate degrees

The Executive Committee of the Board of Governors gave approval, January 6th, to three new graduate degrees to be offered by this University. They are: The M.Sc. in meteorology; the L.L.M. in law; and the Ph.D. in microbiology.

new lab slated

Tenders for an Environmental Control Laboratory on the University Farm have been awarded to D.S. Greenfield Construction Ltd. of Edmonton for \$138,500.

The new building will primarily be a research laboratory where physiological studies on large animals will be carried out. In particular, the laboratories will be used to study the effect of heat and cold on the health and growth of these animals. It is anticipated that research of this type will greatly benefit producers of Canadian livestock and poultry since little fundamental knowledge is known of the biological and physiological effects extreme weather conditions have on these animals. Alberta producers stand to benefit most from these studies since Alberta ranks first in beef, second in pork, and third in poultry production among Canadian provinces.

Faculty Notes

physics

DR. M. M. RAZAVY, Assistant Professor of Physics, has been awarded the National ResearchCouncil's E. W. R. Steacie Memorial Fellowship for 1966. The Fellowship, established by NRC in 1963, perpetuates the name of Dr. E. W. R.

M. M. RAZAVY name of Dr. E. W.R. Steacie, President of the Council from 1952 - 1962. It is designed to give outstanding and promising young staff members in the natural sciences at Canadian Universities the opportunity to spend two or three years in uninterrupted research.

Dr. Razavy, a native of Mashhad, Iran, is the second recipient of the Fellowship. He joined the University of Alberta in 1962 as a Fellow with the Theoretical Physics Institute and was appointed Assistant Professor in 1963. His field is theoretical nuclear physics. Dr. Razavy will hold the Fellowship at this University where he will be relieved of his teaching duties for two years.

math and physics

The National Research Council has designated Senior Research Awards to two University of Alberta faculty members. DR. G. C. NEILSON, Associate Professor of Physics, will use the award to carry out advanced studies during his sabbatical leave next year in Harwell, England at the Atomic Research Laboratory. DR. WERNER ISRAEL, Associate Professor of Mathematics, will carry out research at the Dublin Institute for Advanced Study.

psychology

The Inaugural Lectures in the HeinzWerner Lecture Series of Clark University's Institute of Developmental Psychology were delivered January 13 and 14 by DR. LUDWIG VON BERTALANFFY, Professor of Theoretical Biology. He was invited to speak on developmental psychology and related disciplines.

surgery

The Board of Regents of the American College of Physicians has elected DR. K. KOWALEWSKI to Fellowship. Dr. Kowalewski is Associate Professor of Experimental Surgery and Chief of the Division of Surgical Research at the University's Surgical-Medical Research Institute.

english

The American Council of Learned Societies has awarded a grant-in-aid to DR. E. J. ROSE of the Department of English for post-doctoral research in his study on "an edition of Blake's water-colours for Night Thoughts, by Edward Young with critical commentary." He is one of 38 scholars to receive such grants and one of two in Canada. Dr. Rose is now on Sabbatical Leave in England and wants to stay another year to hold the award.

zoology

The Alberta Biological Station at Gorge Creek will henceforth be known as "The R. B. Miller Biological Station." The decision to change the name of the station was taken by the University of Alberta's Board of Governors who felt that Dr. Miller's contribution to developing the concept of the station and carrying it through, justified this course of action.

The late DR. R. B. MILLER taught Zoology at the University for 23 years and was Head of the Department for three years prior to his untimely death in 1959. Dr. Miller was prominent in the Canadian scientific community and



entific community and R.B. MILLER played an invaluable role in the development of conservation practices in Alberta. In 1950 he organized the Alberta Biological

Station at Gorge Creek. The research he conducted there had a profound influence on fish cultural and fish management policies in North America.

DR. D. A. BOAG of the University's Department of Zoology, who has been Director of the Station since 1963, was Chairman of the Committee which proposed the change in name to the Board of Governors. Dr. Boag explained the reasons behind the Committee's decision to seek a name "I was a student of Miller's and did my field research for the Master's degree at the station under his direction. I admired Professor Miller as both a scientist and a teacher. He had the happy faculty of inspiring enthusiasm in his students and at the same time instilling the scientific approach to problems of biology. He was an excellent critic. The Biological Station represents for me the place where biologists can mature and find themselves as I did under his tutelage. I therefore felt that it would be appropriate to name this station - which I hope will continue to do for other students what it did for me - in his honour. My colleagues agreed.'

physical education



A Motor Development Centre for handicapped children in Edmonton and district has been established on campus under the direction of DR. PA-TRICIA AUSTIN of the Faculty of Physical Education. The pro-

PATRICIA AUSTIN gram is designed specifically for school-age children whose motor development is retarded and who, at the same time, have a learning disability which prevents them from achieving academically in the regular school program.

Research suggests that, at least in clinical situations, motor development improves academic performance of students whose motor age is retarded. The major purpose of this program is to determine if an intensive physical education program has a significant effect on learning ability as measured by academic progress and standards tests of achievement. The Motor Development Centre also offers physical education undergraduate and graduate students an opportunity to work with children and parents in this specialized area.

Each child is given a battery of tests by the Faculty of Physical Education and the Educational Psychology Department in order to assess the child's level of motor performance, physical development and psychological function. Individual programs are then prescribed. Currently seventeen children are participating in the program which has been in operation one afternoon a week in the Education Gymnasium since October.

Miss Austin reports that results to date have been encouraging. "Certainly the response of the children has been most favorable and their motor performance has improved markedly. The parents are most enthusiastic and, in most cases, have established small gymnasia in basements and playrooms so that they are able to continue the activitivities at home."

art

MR. J.B. TAYLOR of the Department of Art has been invited to present a one-man exhibition of his works at the Banff School of Fine Arts during the month of January and at the University of Alberta at Calgary during February.

psychiatry

DR. WILLIAM FORSTER of the Department of Psychiatry has resigned to accept the post of Director of Psychiatry at the Peterborough Civic Hospital. He has taught at the University for the past seven years.

Board approves appointments, resignations

The following full-time appointments, resignations etc. were approved by the Executive Committee of the Board of Governors at their meeting held January 6, 1966.

APPOINTMENTS

ECONOMICS: Adolf Buse, Assistant Professor, effective July 1/66.

EDUCATIONAL PSYCHOLOGY: (Mrs.) Rivkah Bartell, Assistant Professor, effective July 1/66.

ELEMENTARY EDUCATION: Miss Shiela Gracey, Special Lecturer, effective Sept. 1/66; A.W. Kratzman, Professor, effective Sept 1/66

GERMANIC LANGUAGES: M. V. Dimić. Assistant Professor, effective July 1,

HISTORY: (Mrs.) Margaret Allnutt Bax, Associate Professor, effective Jan. 1,

LAW: F. K. Sellar, Associate Professor,

effective Sept. 1/66.
MICROBIOLOGY: C. H. Pai, Assistant Professor, effective Feb. 1/66.
MINING & METALLURGY: A. E. Miller,

Associate Professor, effective July 1,

PHARMACY: A.F. Casey, Associate Professor, effective July 1/66.

PHYSICS: Effective July 1/66: P.N. Daykin, Visiting Assistant Professor; D.D. Gough, Professor.

Dr. G. K. Goundry was appointed Acting Head of the Department of Economics for a four month period beginning Jan. 15/66.

Summer Session and Banff School of Fine Arts appointments were also approved but are too numerous to mention here.

WITHOUT DEFINITE TERM BIOCHEMISTRY: B. G. Lane, Associate Professor.

BOTANY: E. A. Cossins, Associate Professor.

ELECTRICAL ENGINEERING: R.E. Phillips, Superintendent of Buildings and Associate Professor

GEOGRAPHY: J.J. Klawe, Associate Professor

HISTORY: W.B. Heeney, Assistant Professor: Martin Katz, Assistant Professor: Miss Helen Liebel, Assistant Professor; F. A. deLuna, Assistant Professor; J. G. Rayback, Professor; J. N. Wickenden, Assistant Professor.

LAW: D. T. Anderson, Assistant Professor; I. L. Head, Associate Professor. MATHEMATICS: A.E. Livingston, Pro-

fessor; A. Sharma, Associate Professor.

PHARMACOLOGY: W. A. Mahon, Associate Professor; G. S. Marks, Associate Professor.

REHABILITATION MEDICINE: Miss E1izabeth Rowand, Lecturer.

REAPPOINTMENT

CHEMISTRY: D.D. Tanner, Assistant Professor, effective Sept. 1/66.

RESIGNATIONS

BIOCHEMISTRY: W. A. Green. Assistant Professor, effective Nov. 30/65. DENTISTRY: R.A. Youdelis, Lecturer,

effective April 30/64.

LIBRARY: (Mrs.) Barbara Roxanna Spurr, Librarian, effective Jan. 15/66.

PAEDIATRICS: R. J. Gobius, Instructor, effective Nov. 30/65. PRINTING SERVICES: Claude Martin, Su-

perintendent, effective Dec. 1/65. ROMANCE LANGUAGES: H.S. Robertson, Associate Professor, effective Aug. 31,

SABBATICAL LEAVE

ECONOMICS: I. Moravcik, Associate Professor, effective July 1/66.

EDUCATIONAL PSYCHOLOGY: J. D. Ayers, Associate Professor, effective July 1/66; W. B. Dockrell, Associate Professor, effective Sept. 1/66.

ENGLISH: R.G. Baldwin, Professor, effective July 1/66; I.C. Sowton, Associate Professor, effective July 1/66. ENTOMOLOGY: W. G. Evans, Associate

Professor, effective July 1/66.

MATHEMATICS: Effective July 1/66: H. F.J. Lowig, Associate Professor; T.V. Narayana, Associate Professor.

MICROBIOLOGY: G.E. Myers, Professor, effective July 1/66.

PAEDIATRICS: W. C. Taylor, Associate Professor, effective July 1/66.

PHYSICS: Effective July 1/66: G.L. Cumming, Associate Professor; H.R. Krouse, Associate Professor; G.C. Neilson, Associate Professor.

SECONDARY EDUCATION: A. A. Smith, Associate Professor, effective July 1, 1966

SOCIOLOGY & ANTHROPOLOGY: G, K, Hirabayashi, Professor and Head, effective July 1/66.

ZOOLOGY: V. Lewin. Associate Professor, effective July 1/66.

LEAVES OF ABSENCE

CLASSICS: R.E. Braun, Assistant Professor, for 66-67 session.

COMMERCE: A. G. Perroni, Assistant Professor, for 66-67 session.

ECONOMICS: W.D. Gainer, Professor and Head, effective Jan. 15/66 for 4 months.

ENTOMOLOGY: Mrs. C.D. Sharplin, Assistant Professor, effective May 1/66 for 16 months.

EXTENSION: D. A. Bancroft, Associate Professor, for 66-67 session; D. D. Campbell, Director and Professor, Jan. 24 to Mar. 12/66.

GEOGRAPHY: K.V. Abrahamsson, Assistant Professor, for 66-67 session.
GERMANIC LANGUAGES: Miss Alison

Scott, Assistant Professor, effective Sept. 1/66 for one year.

SLAVONIC LANGUAGES: G. H. Schaarschmidt, Assistant Professor, for 66-67 session.

PROMOTION

DENTISTRY: R.D. Haryett, from Assistant Professor to Professor, effective April



service challenge opportunity

A greatly increased interest in overseas service is being shown by University of Alberta students who will receive their degrees in the spring of 1966. PROF. KING GORDON, faculty chairman of the Canadian University Service Overseas (CUSO) on the Edmonton campus, reported that he had already interviewed more than fifty members of the graduating classes who are inquiring about the possibilities of a two-year assignment in a country in Asia, Africa, the Caribbean, or Latin America. Thirteen volunteers from Alberta are currently teaching and undertaking professional assignments in India, Nigeria, Kenya, Uganda, Zambia, Tanzania, and the Caribbean. Two returned Alberta volunteers, Bob Liddle and Gordon Banta, are now studying for their masters degrees at this University. This year, Professor Gordon thinks, there are likely to be 30 students chosen for overseas appointments from this campus.

The Canadian University Service Overseas began in 1961 as a small voluntary effort by a number of students on several Canadian campuses who were concerned with the needs of developing countries for teachers. nurses, technicians, agriculturalists, doctors, engineers, and social workers. Seventeen went out that first year. Since then the CUSO program has developed rapidly with financial support from universities, private individuals and corporations, provincial governments, and the Government of Canada. Today there are some 360 young Canadians serving under CUSO in thirty

Professor Gordon attributes this year's increased interest to the work of an active student committee headed by Mike Stewart. Applications for CUSO volunteers will be received up to mid-January, 1966 and faculty are encouraged to bring this program to the attention of students.

CUSO serves as a positive example of U. Thant's vision when he said, "I am looking forward to the day when the average youngster - and parent or employer - will consider that one or two years of work for the cause of development, either in a faraway country or in a depressed area of his own country, is a normal part of one's education.'

calendar of events, january 16th to 31st =

- Jan. 17 Lunch-hour Concert by Music Department students, 12 noon, Convocation Hall, no charge for admission.
- Jan. 20 The Humanities Association and the Philosophical Society present Dr. H. P.G. Liebel, Assistant Professor of History, who will speak on "Of Palaces and Kings," Room 2104 Medical Sciences Building, 8:15 p.m. Admission \$.50 for non-members.

University Concert Band, Convocation Hall, 8:15 p.m.

Jan. 21 - Lobster Night upstairs at the Faculty Club, \$5.50 each.

T.G.I.F. Night at the Faculty Club, "Chicken a la Kiev,"

University Concert Band, Convocation Hall, 8:15 p.m.

Basketball: University of Alberta versus University of Saskatchewan, Main Gym, 8:30 p.m.

Jan. 22 - Swimming: Northern Alberta All-Stars Meet, University of Alberta Pool, 2 p.m.

Lobster Night upstairs at the Faculty Club, \$5.50 each.

Basketball: University of Alberta versus University of Saskatchewan, Main Gym, 8:30 p.m.

Dinner-Dance at the Faculty Club.

Jan. 24 - University Chamber Orchestra and soloists. Convocation Hall, 8:15 p.m. No admission charge.

- Jan. 25 Robbie Burns Night at the Faculty Club (changed from Jan. 24) traditional haggis-plus meal with appropriate Scottish entertainment, \$3.00 each, 7 p. m.
- Jan. 27 The Department of Germanic Languages and Linguistics sponsors Dr. Morris Swadesh from the Department of Anthropology, University of Mexico who will give a public lecture on "The Origin and Diversification of Languages," Room 2022, Medical Sciences Building at 8:15 p.m.

Cello and Piano recital by faculty members Claude Kenneson and Sandra Munn. Convocation Hall, 8:15 p.m. No admission charge.

Jan. 28 - T.G. I. F. Night at the Faculty Club, "Hapsburg Roulades," \$1.25.

Basketball: University of Alberta versus University of Alberta at Calgary, Main Gym, 8:30 p.m.

Jan. 29 - Provincial Gymnastic Championship, Main Gym at 10 a.m.

Wrestling: University of Alberta versus University of Saskatchewan, Physical Education Building, 2 p.m.

Basketball: University of Alberta versus University of Alberta at Calgary, Main Gym, 8:30 p.m.

Dinner Dance at the Faculty Club.

COMING: February 18 - Alumni Silver and Gold Homecoming Ball at the Macdonald Hotel. Classes of '16 and '41 will be specially honoured.

memo _____

The Bookstore has announced that any academic or administrative staff member is required to show his social security card when paying by cheque, if he is unknown to any Bookstore employee. When this is not

possible, the Bookstore Manager must approve another form of identification.

Students are required to show their identification cards when paying by cheque.